| **Domain** | **Grade 6** | **Grade 7** | **Grade 8** |
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| Counting and Cardinality |  |  |  |
| Operations and Algebraic  Thinking |  |  |  |
| Number and Operations  in Base Ten |  |  |  |
| Number and Operations—Fractions |  |  |  |
| Measurement and Data |  |  |  |
| Ratios and Proportional  Relationships | * Understand ratio concepts and use ratio reasoning to solve problems. | * Analyze proportional relationships and use them to solve real-world and mathematical problems. |  |
| The Number System | * Apply and extend previous understandings of multiplication and division to divide fractions by fractions. * Apply and extend previous understandings of numbers to the system of rational numbers. | * Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. | * Know that there are numbers that are not rational, and approximate them by rational numbers. |
| Expressions and Equations | * Apply and extend previous understandings of arithmetic to algebraic expressions. * Reason about and solve one-variable equations and inequalities. * Represent and analyze quantitative relationships between dependent and independent variables. | * Use properties of operations to generate equivalent expressions. * Solve real-life and mathematical problems using numerical and algebraic expressions and equations. | * Work with radicals and integer exponents. * Understand the connections between proportional relationships, lines, and linear equations. * Analyze and solve linear equations and pairs of simultaneous linear equations. |
| Functions |  |  | * Define, evaluate, and compare functions. * Use functions to model relationships between quantities. |
| Geometry | * Solve real-world and mathematical problems involving area, surface area, and volume. | * Draw, construct and describe geometrical figures and describe the relationships between them. * Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. | * Understand congruence and similarity using physical models, transparencies, or geometry software. * Understand and apply the Pythagorean Theorem. * Solve real-world and mathematical problems involving volume of cylinders, cones and spheres. |
| Statistics and Probability | * Develop understanding of statistical variability. * Summarize and describe distribution. | * Use random sampling to draw inferences about a population * Draw informal comparative inferences about two populations. * Investigate chance processes and develop, use, and evaluate probability models. | * Investigate patterns of association in bivariate data. |